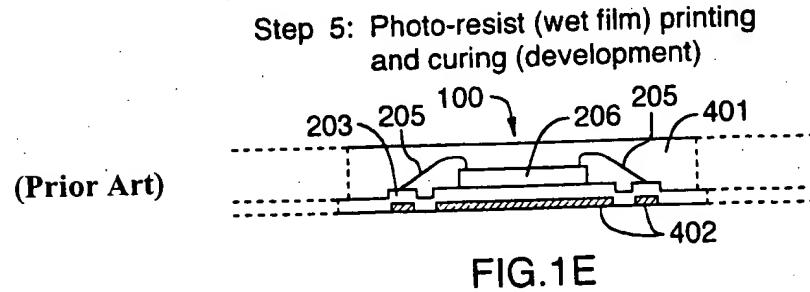
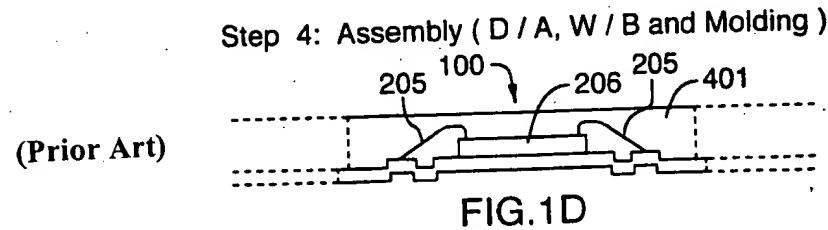
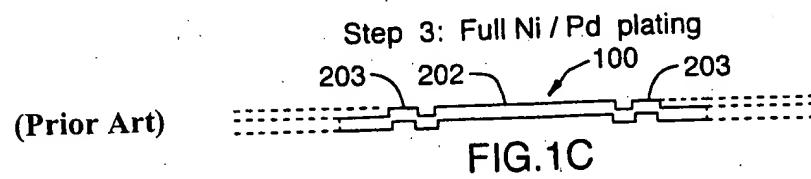
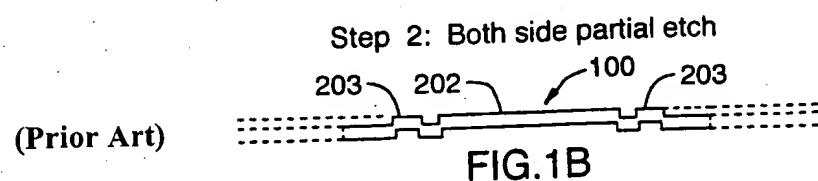
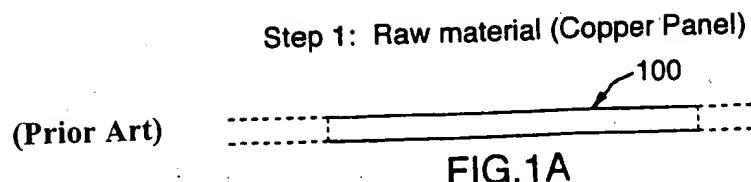




Replacement Sheet



Replacement Sheet

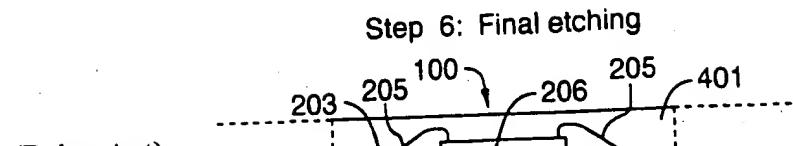


FIG.1F

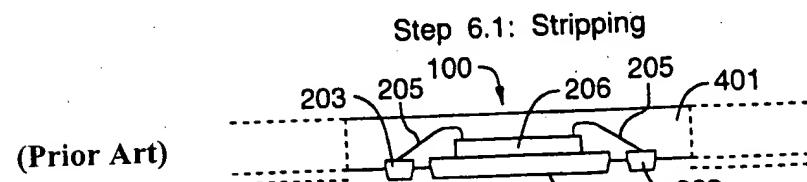


FIG.1G

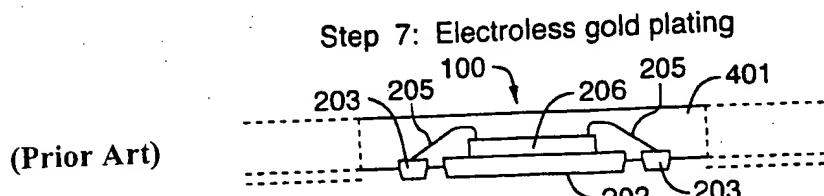


FIG.1H

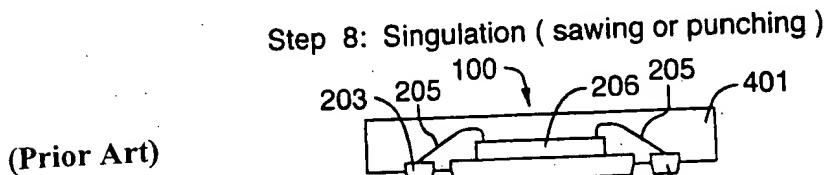
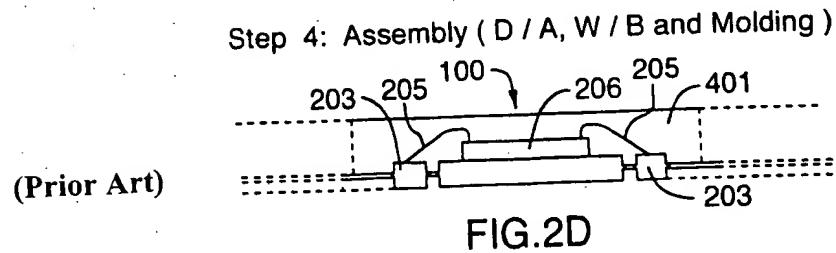
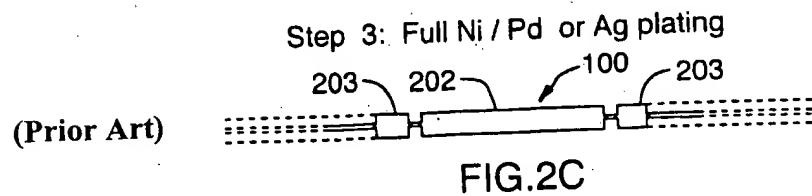
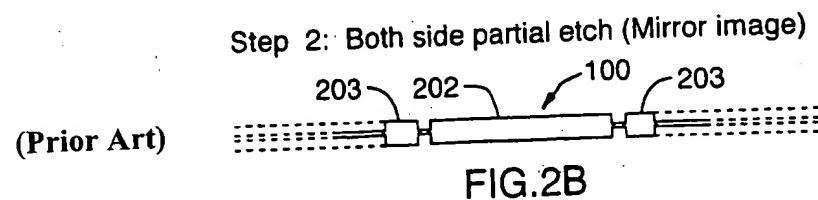
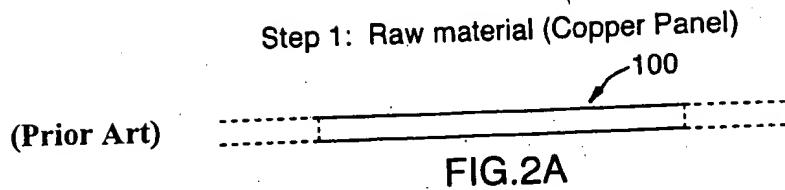
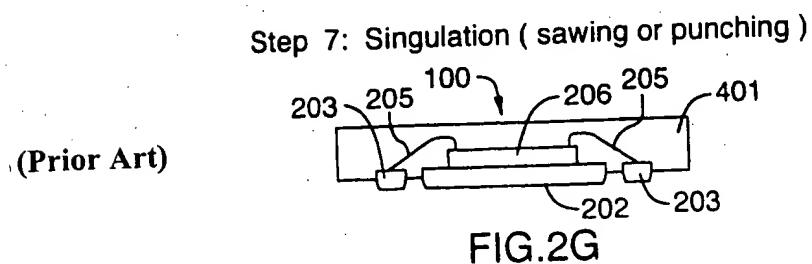
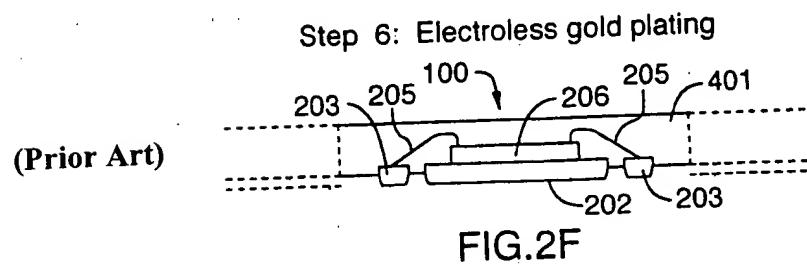
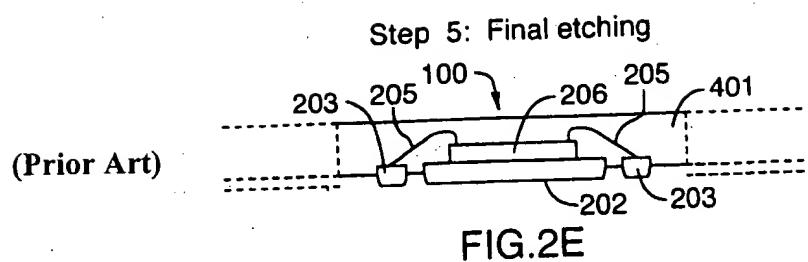


FIG.1I

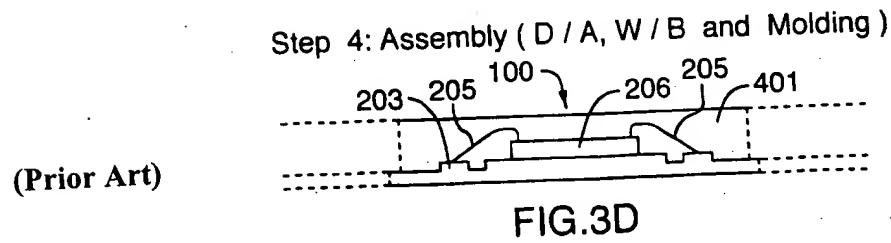
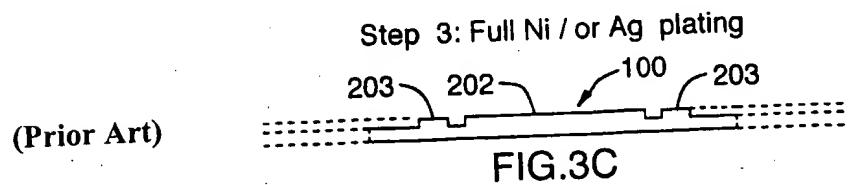
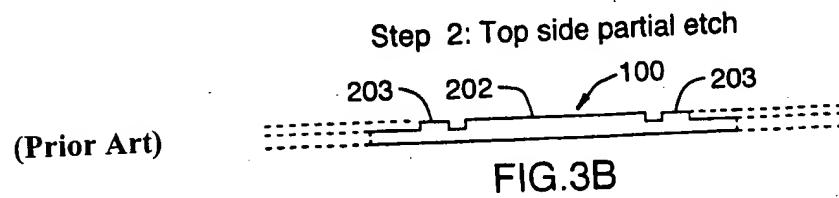
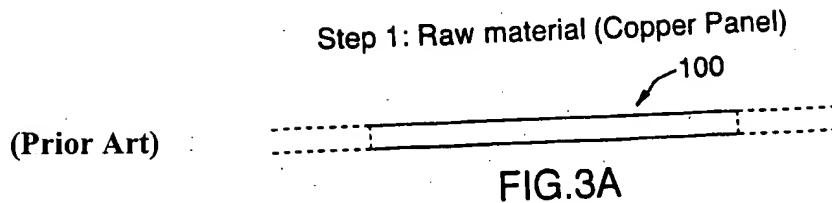
Replacement Sheet



Replacement Sheet



Replacement Sheet



Replacement Sheet

(Prior Art)

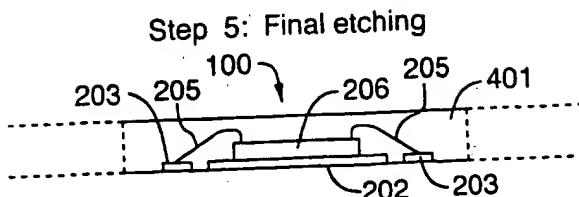


FIG.3E

(Prior Art)

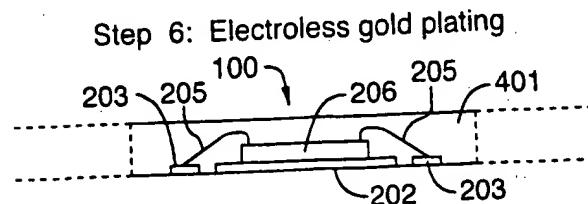


FIG.3F

(Prior Art)

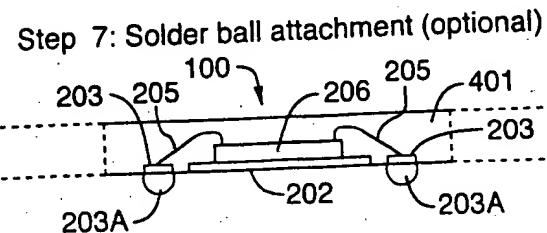


FIG.3G

(Prior Art)

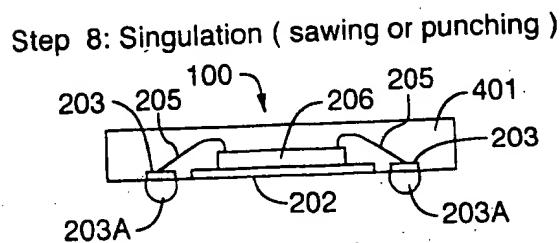
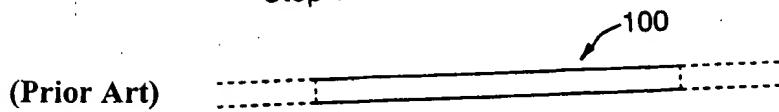


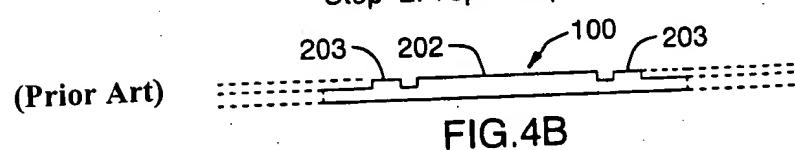
FIG.3H

Replacement Sheet

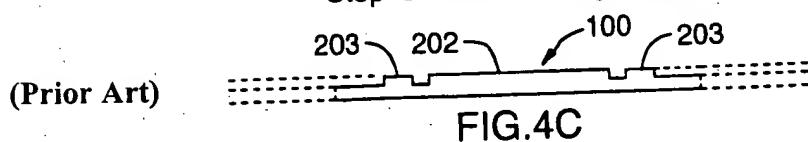
Step 1: Raw material (Copper Panel)



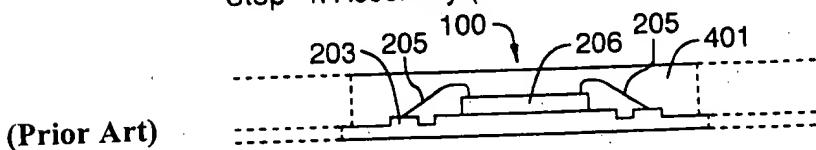
Step 2: Top side partial etch



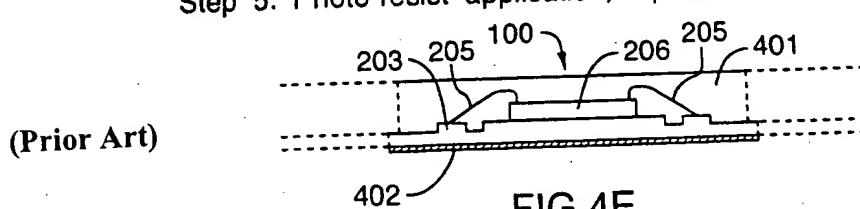
Step 3: Full Ni / or Ag plating



Step 4: Assembly ( D / A, W / B and Molding )



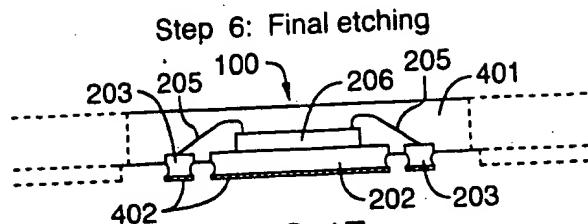
Step 5: Photo-resist application, exposure, and developing



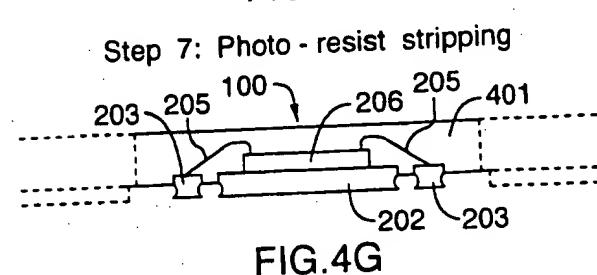
Note : Dry film laminating or Wet-film spin coating

Replacement Sheet

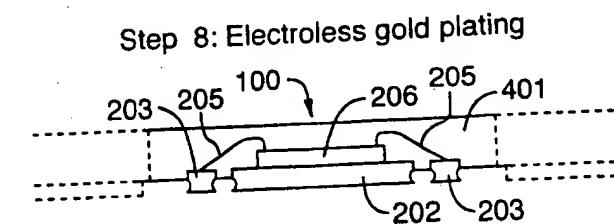
(Prior Art)



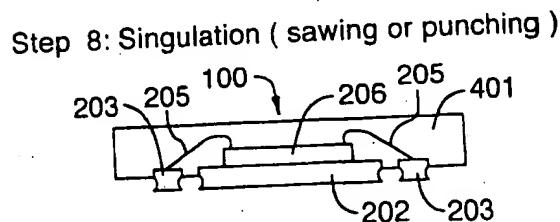
(Prior Art)



(Prior Art)



(Prior Art)



Replacement Sheet

Step 1: Raw material (Copper Panel)

(Prior Art)

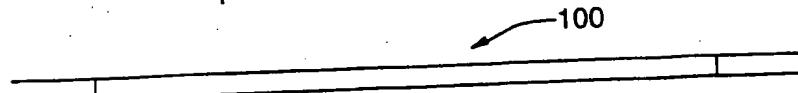


FIG.5A

Step 2: Photo resist lamination and development

(Prior Art)

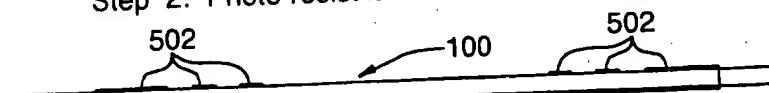


FIG.5B

Step 3: Cu/Ni/Au electrolytic plat up for "1st level connect"

(Prior Art)



FIG.5C

Step 4: Stripping

(Prior Art)

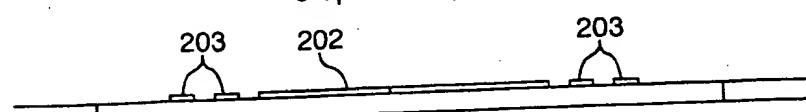


FIG.5D

Step 5: -ve photo-resist lamination and development

(Prior Art)

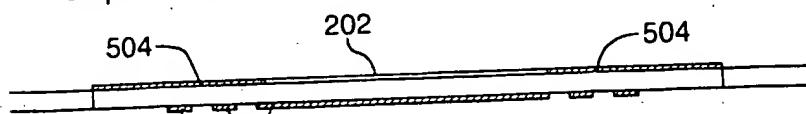


FIG.5E

Replacement Sheet

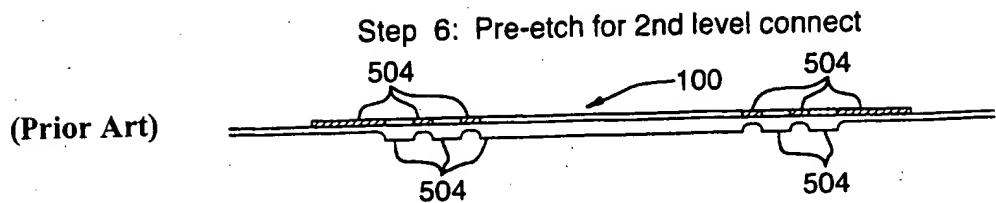


FIG.5F

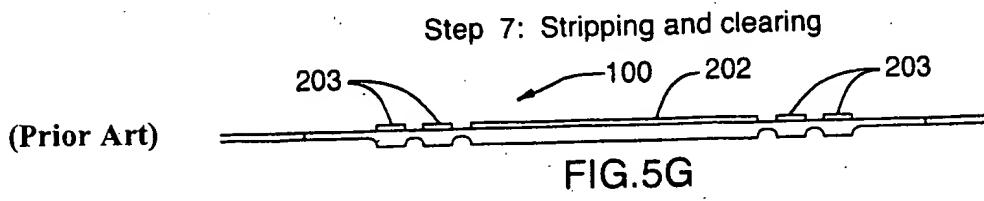


FIG.5G

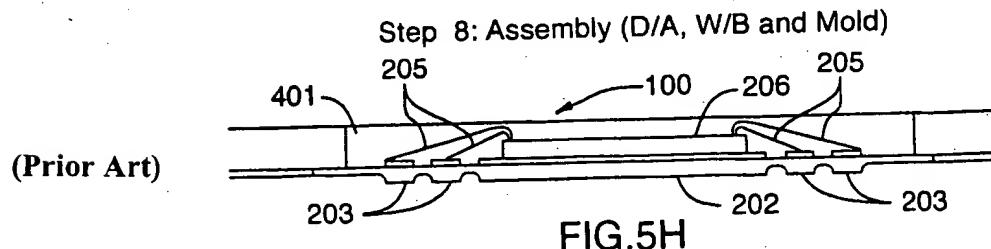


FIG.5H

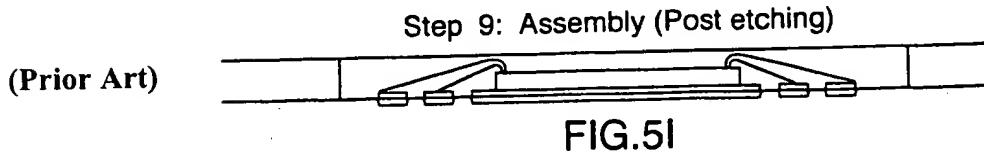


FIG.5I

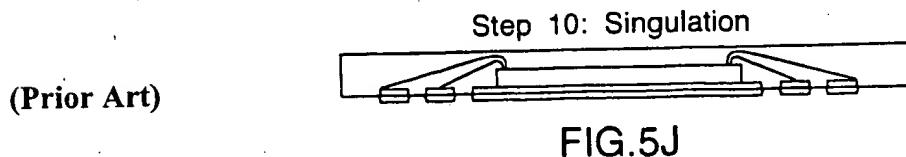


FIG.5J

Replacement Sheet

Step 1: Raw Material (Copper Panel)



FIG. 6A

Step 2: Masking for Plate-Up Process

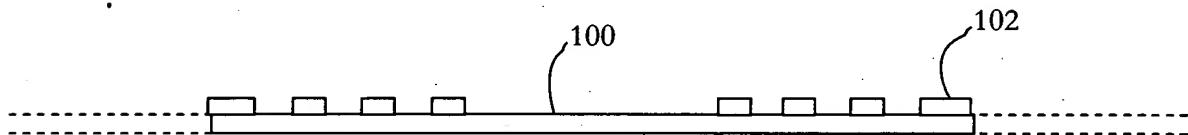


FIG. 6B

Step 3: Plate-Up for "1<sup>st</sup> Level Connect"

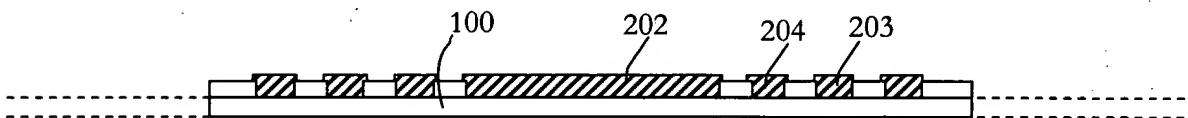


FIG. 6C

## Replacement Sheet

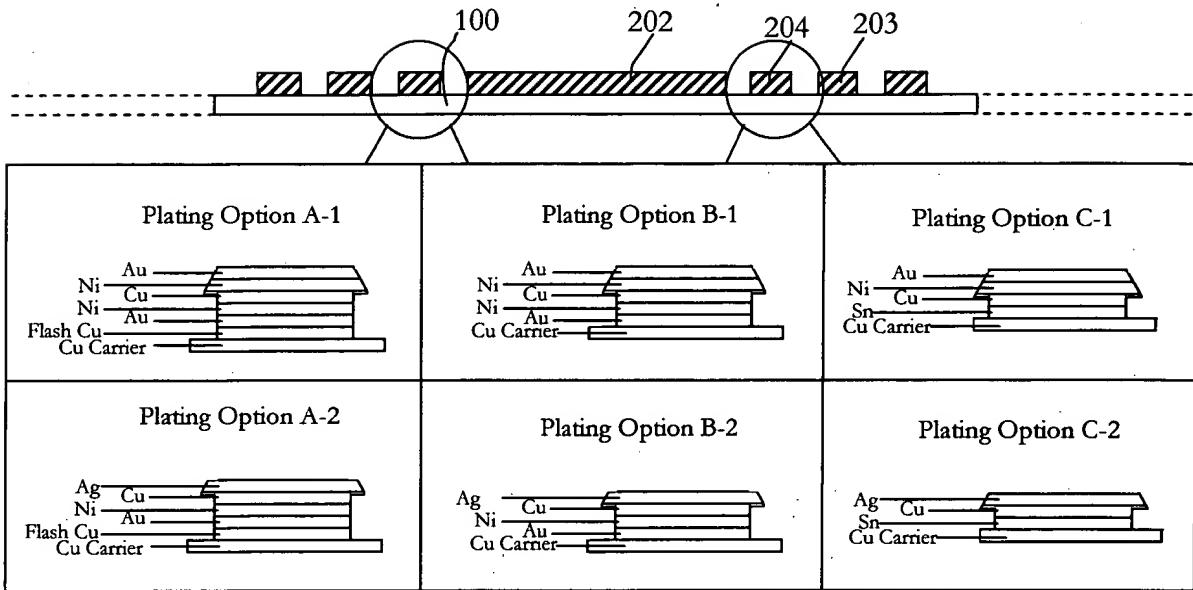


FIG. 6D

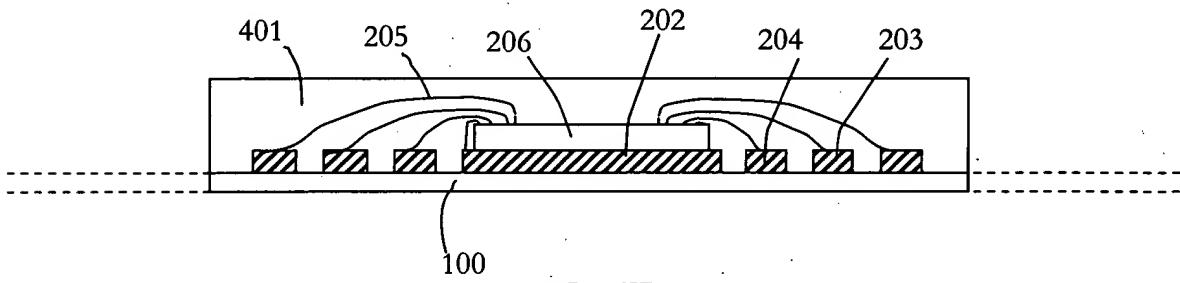
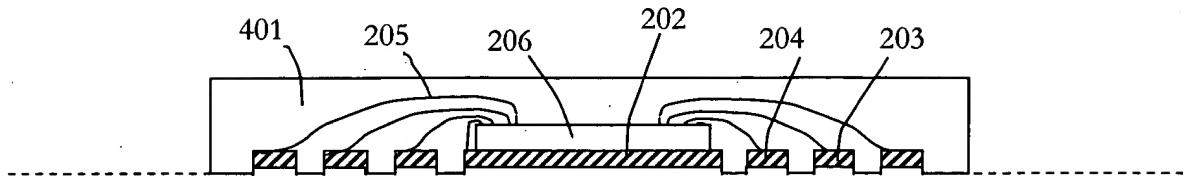


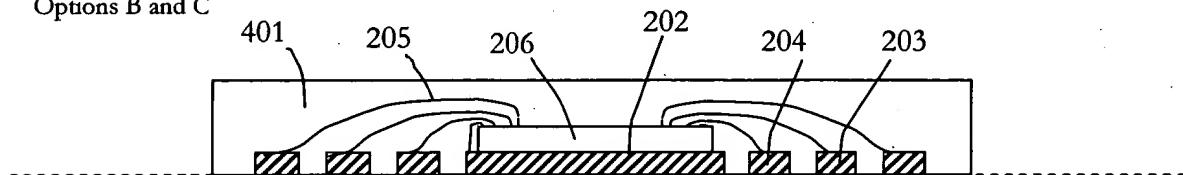
FIG. 6E

## Replacement Sheet

Option A



Options B and C



Plating Option A-1	Plating Option B-1	Plating Option C-1
 Ni — Au Ni — Cu Ni — Au	 Ni — Au Ni — Cu Ni — Au	 Ni — Au Ni — Cu Sn
Plating Option A-2	Plating Option B-2	Plating Option C-2
 Ag — Cu Ni — Au	 Ag — Ni — Cu — Au	 Ag — Cu — Sn

FIG. 6F

Replacement Sheet

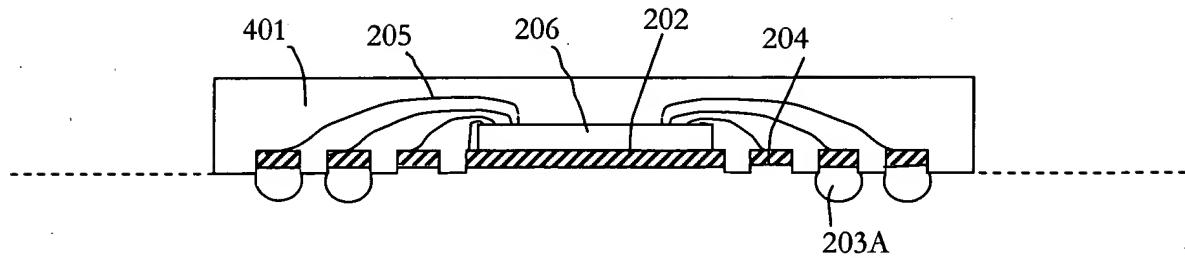
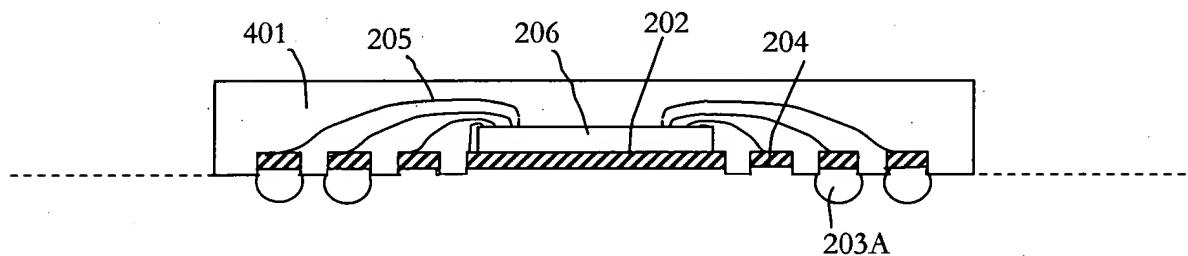


FIG. 6G

Options B and C



Options B and C

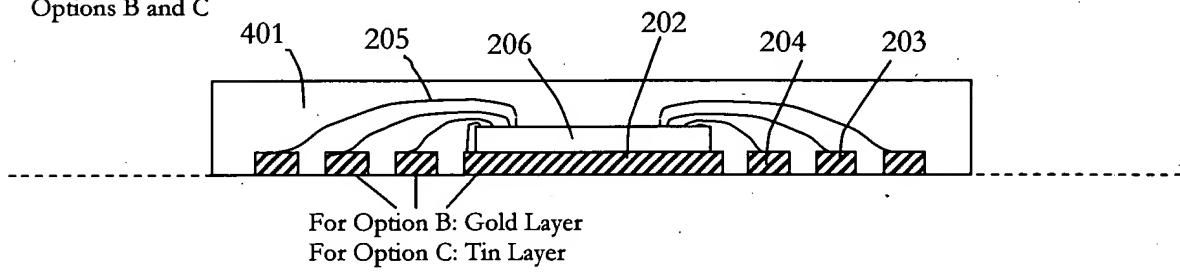
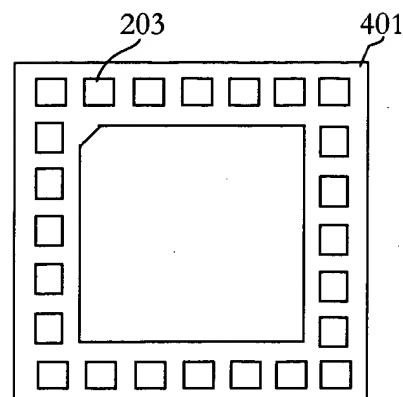


FIG. 6H

Replacement Sheet



Peripheral Type (Single Row)

FIG. 7

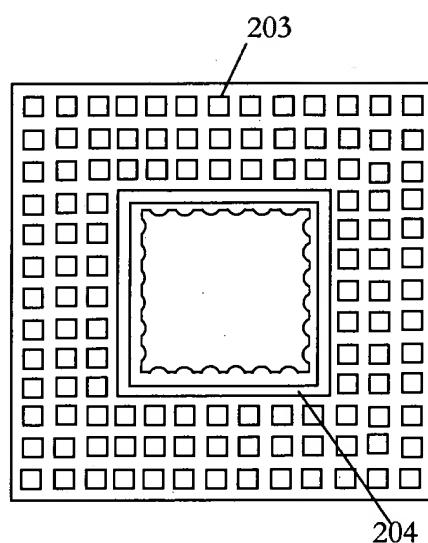


FIG. 8A

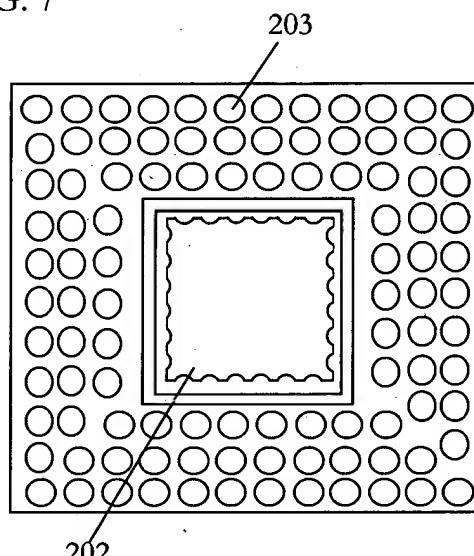


FIG. 8B

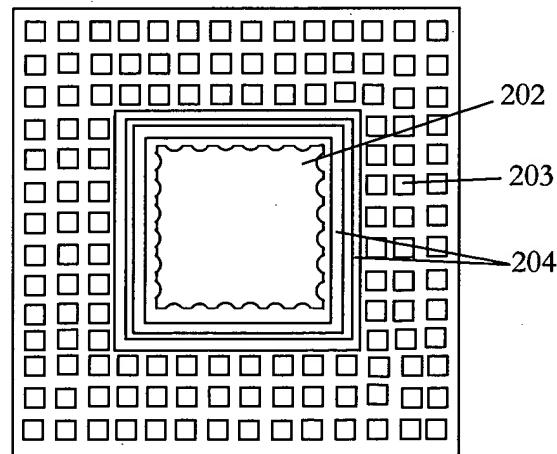


FIG. 9